

**SYSTEM AND METHOD FOR DEVELOPING HIGH OUTPUT POWER  
NANOSECOND RANGE PULSES FROM CONTINUOUS WAVE SEMICONDUCTOR  
LASER SYSTEMS**

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ABSTRACT OF THE INVENTION

Continuous wave laser diodes are able to be operated so as to achieve a high power pulsed output by  
10 operationally exercising them using a subnanosecond input pulse having an IV (power) amplitude characteristic at or exceeding a particular derived power (IV) threshold. Injection current on the order of 1 Amp and an operational voltage in the range of 4 Volts causes a CW laser to define  
15 a pulsed output in the 200 mV to 500 mV range. CW lasers having these output characteristics are coupled to mathematically defined branched pathways in order to construct an optical timing device relying on optical pulses traversing optical pathways at the speed of light.  
20 Pathway length is precisely controlled in order to define timing intervals relying solely on an optical path length and a known traversal speed.

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